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ABSTRACT

Computer output microfilm/fiche (COM) combines the speed and laborsaving aspects of computer-based systems with the economy and physical compactness of microforms to provide the medium of the future for library management and information retrieval. The traditional card catalog and printed lists found in every library can be replaced in multiple copies for less money, and vast amounts of information can be located together in a small space to afford the in-depth library user ready information about a wide variety of potential resources. Administrative tasks such as acquisitions control are made simpler and more manageable using COM. (Author)

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ADMINISTRATIVE AND BIBLIOGRAPHIC USES OF COM (COMPUTER OUTPUT MICROFILM) IN AN ACADEMIC LIBRARY

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Abstract

Computer cutput microfilm/fiche combines the speed and labour-saving aspects of computer-based systems with the economy and physical compactness of microforms, to provide the medium of the future for library management and information retrieval. The traditional card catalogue and printed lists found in every library can be replaced in multiple copies for less money, and vast amounts of information can be located together in a small space, to afford the in-depth library user ready information about a wide variety of potential resources. Administrative tasks such as acquisitions control are made simpler and more manageable using COM.

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I. Introduction.

Although the term "Information Explosion" has become something of a cliche, nonetheless, it does graphically describe the situation facing those responsible for storing and accessing the increasingly vast amounts of information being produced each year. Development of a wide range of automated library systems has provided the library profession with major tools for coping with the burgeoning volume of information.

Libraries represent an essential step in the flow of information from the creator to the user. Unless they are organized, staffed and equipped to facilitate this flow they are not performing their main functions. In general terms, the primary objective of libraries must therefore be to make information (in its many forms) as readily accessible to the user population as is possible.

Computerized systems for performing the basic operational tasks of the library (acquiring material, cataloguing and then circulating it) are playing an increasingly vital role in achieving this general goal of information accessibility. Since we are still quite a distance from meeting all library requirements with full on-line, terminal access systems, other means obviously have to be used to display and access the data of automated library systems. Printed output (be it cards, standard printer output, special print packages) or COM (computer-output-microform) are two off-line means of providing human access to the machine-readable information of automated library systems.

II. Library Applications of COM.

A number of potential applications for the use of COM in libraries can be identified readily. These include:

1) In process files: Acquisition of library materials involves a complex process of identification of the material, verification of bibliographic data, selection of vendors, ordering, receiving, cataloguing and preparation for shelving. Many of the records that form an essential part of this process can be maintained in COM form.

Selection of material to be added to the collection at the University of Guelph Library is through the combined efforts of faculty and professional librarians. Clerical staff then input all necessary information (author, title, source, price, etc.) to magnetic tape using a keyboard/CRT terminal. The information on tape is used to print out paper order forms if necessary, or the tape itself can be transmitted to the book agent if he is equipped to accommodate it. The tape is also used to create an in-process file on microfiche which can be consulted to verify that an item is, in fact, on order, thus preventing a duplicate order. Reference to this file will also identify the status of an order for an anxious would-be user.

One new tape is created each week by merging all tapes of new orders and tapes of updated status information on existing orders with the previous week's master tape. This procedure purges cancelled or completed orders, adds new orders and updates status information. The new tape is then output on fiche to create the updated COM in-process file, a compact group of fiche which replaces many drawers of paper order slips.

2) Catalogues: Once the material has arrived in the library, it must be classified and catalogued so that the user can be made aware, readily, of the library's holdings, and so that the material can be retrieved easily when it is required. The basic access to any library collection is through its catalogues. Traditionally these are in the form of card catalogues (for books or monographs) or printed lists (for serials). Once a library's basic bibliographic data is held in machine-readable form, COM becomes an attractive alternative with a variety of specialized catalogues and display forms available.

In the University of Guelph Library there are, in fact, four catalogues, all of which are held on machine-readable data bases, and three of which make use of COM.

For each catalogue, information is recorded on coding sheets, then transferred onto magnetic tape using a CRT terminal. The contents of each tape are merged with the appropriate existing master file on tape to update it. They can also be used to produce 3"x5" catalogue cards for the traditional card catalogue, printed lists, or microfiche as required.

Rather than the traditional centralized reference service, the University of Guelph Library uses a subject divisional approach with the materials, reference tools and specialized subject staff located in each of five divisions (four in the McLaughlin Library and one located elsewhere on the campus). Author/title and shelf list (call number order) COM fiche copies of the main card catalogue are provided throughout the library in each subject division, thus providing ready access to the collection without the need always to refer to the main card catalogue. A subject catalogue on fiche is also contemplated. This would put the entire main catalogue, except for cross references, at each service point.

In addition, sole access to the list of serials (journals and other periodicals) received and held by the Library as well as to the documents collection is provided through COM fiche catalogues. The monthly "Serials List", a record of the titles and holdings of approximately 8,500 serials in the collection (6,500 of these are currently being received), is available in microfiche at all service points in the system. Also available are COM fiche catalogues of the holdings of eleven members of the Ontario Universities Co-operative Library System's "Co-operative Union Serials System" (the CUSS list).

Government documents, technical reports and related materials are held in the Documentation and Media Resource Centre and access is provided through a series of COM fiche catalogues (arranged by personal author, corporate author, title, series, serial and keyword subject). These six points of access are provided to over 150,000 records through the use of approximately 125 fiche. New catalogues are generated at the beginning of each semester (three times per year) and are placed at service points throughout the library. A union list of the coded documents of eight other Ontario Academic Libraries is also available on fiche in the Documents area of the library.

3) Circulation and Reserve Systems: Automated library circulation systems generate large volumes of output, much of which must be retained for historical purposes (e.g. as supporting documentation for enforcement of a fines system). Use of COM files to record this data can considerably reduce the amount of paper which must be stored for long periods of time. Statistical and historical data on the use of materials in the Reserve collection (short loan, in-library-use material) can also be retained satisfactorily in COM form.

4) Management information: Some of the statistical, financial and historical data built up through the operation of library management information systems can usefully be distributed in COM form. For example, at the University of Guelph Library the annual cummulation of weekly statistical information on all materials shelved in the library (approximately 175-200 pages of computer output) can easily be placed on a single COM fiche for distribution to each Division Head in the system. Other applications in this area are being developed.

5) Specialized bibliographies: COM provides an economical approach to the production and distribution of specialized bibliographies based upon machine-readable files. For example, the University of Guelph, on occasion, produces specialized subject bibliographies to meet particular requirements based on existing bibliographic files. These may run to several thousand pages and COM fiche provide an attractive and inexpensive distribution medium.

III. Problems.

The transition from paper to COM cannot be made without careful consideration, since there are certain details which could conceivably cause difficulties. Among the most obvious potential problem areas are:

1) Turn-around time: although many universities and corporations have ready access to computing facilities and can receive printed output overnight, far fewer have COM production facilities. Tapes must generally be sent to an outside service bureau to be printed in microform, thus increasing the turn-around time generally to a minimum of three days. For reports required on a daily basis from the previous day's input (such as a library's daily list of books currently out to borrowers), COM is obviously not feasible until the necessary equipment can be acquired in-house or particularly good access to a service bureau is available.

2) Reduction standards must be examined and chosen carefully, matched to the requirements of specific systems and to the capabilities of the readers and reader-printers to be used. Most in-house COM files in use at the University of Guelph are reduced by a ratio of 48 to 1. Some commercially purchased fiche are reduced by only 24 to 1. The same equipment cannot usually be used satisfactorily to read both of these.

3) Equipment: an ample number of readers and reader-printers must be made available to avoid user frustration. COM fiche readers are not particularly expensive and, as the figures to follow will show, they generally pay for themselves in a short time compared to hard copy output.

An enormous range of COM reader and reader/printer equipment is now on the market, varying in quality and price as well as in features and capabilities. Manufacturers are more than happy to provide information on request. More objective comparisons and evaluations of brands and models can also be found in the literature.

4) User resistance is also a very real possibility which should be considered and planned for in advance. Many people instinctively object to anything related to computers, automation, or a lack of "the personal touch", and after a lifetime of dependence upon the printed word, will recoil from what they consider to be gadgets and modern fads. Potential user resistance can be minimized by clearly demonstrating the reasons for using COM, its effectiveness in storing information and by the provision of sufficient high quality readers and reproduction equipment.

IV. Advantages.

The advantages of computer output microforms are apparent. Catalogues and lists are both cheaper and more compact than on paper and therefore can be reproduced in multiple copies. At Guelph full sets of all in-house catalogues plus some union lists of holdings of other institutions can be located at each of seven public service points throughout the library, making access more convenient for the user, and incidentally for the reference librarian who is helping the user and who may wish to refer him to some other area of the building.

The cost advantage to be achieved through the use of COM is considerable. Some examples from the three main systems in operation at Guelph will serve to illustrate:

1) Monograph Catalogues: are currently run in eight copies three times per year at a cost of $1,500 per run. The same catalogues produced in paper form would cost nearly $20,000 annually.

2) Serials Lists: are produced monthly in twenty-six copies at a cost of approximately $50 per run. In paper they would cost about $360 per run.

3) Government Documents: catalogues are run three times per year at a cost of about $500 per run for ten copies. Before this file was converted to COM fiche in the summer of 1975 it consisted of eleven rolls of COM microfilm plus forty-eight linear feet of printouts averaging 400 pages each. Current paper costs for ten copies would be almost $5,000 per run or about ten times the fiche costs.

V. Conclusion.

The potential for use of COM in libraries is great, but its actual use is still severely limited in most libraries, because use of automated systems and machine-readable data bases is still not widespread.

Perhaps an even greater stumbling block to full effective use of COM can be found in the inertia of many library systems. The management and staff in many libraries must be made aware of the possible benefits. They themselves must overcome their heavy dependence upon the printed word and then learn to fully utilize all the tools placed at their disposal by today's information technology.

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